MARINE CORPS
WARFIGHTING LABORATORY

DRAGON EYE IMPROVEMENTS

fact sheet

Dragon Eye is a 5-pound, back-packable, modular unmanned aerial vehicle (UAV) designed to provide the Marine small-unit commander with an organic reconnaissance and surveillance capability to see over the next hilltop or building. It is an important component in the Marine Corps Warfighting Lab's continuing effort to develop an intelligence, reconnaissance and surveillance family of sensors that portray a picture of the battlespace, enabling enhanced situational awareness for small-unit leaders on the ground.

Background: Dragon Eye was a rapid-fielding acquisition program currently managed and funded by the Marine Corps Systems Command (MCSC). The Warfighting Lab continues to support the Dragon Eye Program with technology research and insertion for further incremental upgrades. It was initially funded by the Warfighting Lab and the Office of Naval Research, and was built by the Naval Research Laboratory. Dragon Eye is the direct result of the Secretary of the Navy's small UAV initiative and fulfills the Interim Small Unit Remote Scouting System (ISURS) requirement supporting MCSC. The procurement contract was awarded in November 2003 to AeroVironment, Inc. MCSC began fielding in May 2004, and continues, and the Lab continues further technology insertion and experimentation.

Description: Dragon Eye is battery-operated and capable of fully autonomous flight. Made of lightweight material, it is designed to disassemble into five separate pieces that are can be carried in an individual Marine's pack. Dragon Eye has a 45-inch wingspan and weighs approximately five pounds. Missions are programmed via a wireless modem that is integrated into a 12-pound ground control station (GCS). After being launched, via hand or with a surgical rubber bungee cord, Dragon Eye flies to pre-assigned Global Positioning System (GPS) waypoints. If the operator needs to alter Dragon Eye's waypoints after launch, he has the ability to reprogram the Dragon Eye in-flight through the GCS. Its sensors include full-motion color, low-light, and infrared cameras, each capable of transmitting video line-of-sight to a range of 10 kilometers. Dragon Eye flies up to speeds 35 knots and has a maximum battery endurance of one hour. Ten initial prototype systems were provided to the 1st Marine Division (1st MARDIV) in support of an extended user assessment during Operations Enduring Freedom and Iraqi Freedom.

The lessons learned from this user assessment are being used to focus the research and development at the Warfighting Lab for future Dragon Eye system in the near future.

Deliverable products: MCWL received delivery of 20 Dragon Eye systems in 2002 for operator evaluations. The prototype systems consisted of two air vehicles and one ground control station. MCSC is responsible for procurement and fielding, which began in the summer of FY04. A fielded system includes three air vehicles and one ground control station. Current cost at full-rate production is approximately $125,000 per system. MCSC plans to eventually purchase 324 systems through FY08.

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Dtd: March 11, 2005

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